

FINAL REPORT

BY

KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

Work on this project was conducted under the auspices of the Department of Energy,
Mines and Resources.

DSS FILE NUMBER: 23440 7 9166 - 5

DSS CONTRACT NUMBER: #09SQ.23440-7-9166

EMR SCIENTIFIC AUTHORITY: Tim Ferguson

CONTRACT SERIAL NUMBER 79166-05-SQ

CONTRACTOR: KAMLOOPS RESEARCH & ASSAY LAB.

TITLE: "CHEMICAL ANALYSIS OF ORE TAILINGS
REFERENCE MATERIALS"

6PF

MICROMEDIA

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.
V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

Government Samples

- Silica - 1 gram sample
- Decomposition with $\text{HCl} + \text{HNO}_3 + \text{HClO}_4$
 - Insoluble fused with Na_2CO_3
 - Melt dissolved in initial filtrate and impure silver dehydrated, filtered, ignited and weighed.
 - Residue treated with HF and H_2SO_4 to volatilize
 - Silicon and weighed to a constant mass.
- Fe - 0.5g sample
- Decomposition with HCl , HNO_3 , H_2SO_4 and HF
 - Iron reduced with SnCl_2
 - Titrated with Potassium Dichromate
- Ca, Mg, Al, Cu, Zn, Pb, Co, Ni, Cd
- 1 gram sample Acid decomposition
 - Residue fused with Na_2CO_3
 - Melt dissolved with HCl
 - Solution analyzed by A.A.
- As - 1 gram sample Acid decomposition
- Arsine is liberated from sample by the action of zinc in HCl and bubbled into a solution of Silver Diethyldithiocarbamate in pyridine.
 - Absorbance of solution is measured by spectrophotometer.



Member
Canadian Testing
Association

KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO CANMET - MSL Division

Certificate No. K 8660

555 Booth Street

Date February 17, 1988

Ottawa, Ontario KIA 0G1

I hereby certify that the following are the results of assays made by us upon the herein described samples

Kral No	Marked	SiO ₂	Fe	Ca	Mg	Al	As	
		percent	percent	percent	percent	percent	ppm	
1.	RTS - 1 A	41.43	20.08	2.50	2.83	3.89	1	
2.	RTS - 1 B	41.56	20.11	2.55	2.87	4.12	1	
3.	RTS - 1 C	41.28	20.09	2.59	2.94	4.07	1	
4.	RTS - 1 D	41.52	20.10	2.39	2.84	3.96	1	
5.	RTS - 1 E	41.46	20.13	2.27	2.98	3.58	1	
6.	RTS - 1 F	41.67	20.07	2.65	2.86	4.11	1	
In As column 1 indicates less than 2 ppm								
		Cu	Zn	Co	Pb	Ni	Cd	
		ppm	ppm	ppm	percent	ppm	ppm	
7.	RTS - 1 A	584	538	8	.013	8	0	
8.	RTS - 1 B	568	512	10	.014	9	0	
9.	RTS - 1 C	561	518	9	.013	9	0	
10.	RTS - 1 D	574	520	9	.013	9	0	
11.	RTS - 1 E	565	514	10	.014	10	0	
12.	RTS - 1 F	572	521	10	.013	10	0	
In Cd column 0 indicates less than 1 ppm								

NOTE
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Debbie A. ...
Registered Assayer, Province of British Columbia



KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

912-1 LAVAL CRESCENT — KAMLOOPS, B.C.
V2C 5P5
PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

TO CANMET - MSL Division

Certificate No. K 8660 - 2

Date

3 hereby certify that the following are the results of assays made by us upon the herein described samples

Kral No	Marked	SiO ₂	Fe	Ca	Mg	Al	As	
		percent	percent	percent	percent	percent	ppm	
13.	RTS - 2 A	5.17	38.58	0.51	0.27	0.92	1	
14.	RTS - 2 B	5.33	38.45	0.49	0.24	0.87	1	
15.	RTS - 2 C	5.36	38.45	0.54	0.28	0.89	1	
16.	RTS - 2 D	5.13	38.41	0.51	0.23	0.92	1	
17.	RTS - 2 E	4.93	38.47	0.50	0.23	0.91	1	
18.	RTS - 2 F	4.94	38.47	0.52	0.21	0.94	1	
In As column 1 indicates less than 2ppm								
		Cu	Zn	Co	Pb	Ni	Cd	
		ppm	ppm	ppm	percent	percent	ppm	
19.	RTS - 2 A	690	142	59	.012	.269	0	
20.	RTS - 2 B	648	104	58	.008	.265	0	
21.	RTS - 2 C	636	107	58	.012	.275	0	
22.	RTS - 2 D	652	96	62	.008	.273	0	
23.	RTS - 2 E	650	90	59	.008	.269	0	
24.	RTS - 2 F	647	90	61	.007	.271	0	
In Cd column 0 indicates less than 1ppm								

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Quik A. Ed. Lee
Registered Assayer, Province of British Columbia



Member
Canadian Testing
Association

KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

912-1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

TO CANMET - MSL Division

Certificate No. K 8660 - 3

Date _____

I hereby certify that the following are the results of assays made by us upon the herein described _____ samples

Kral No	Marked	SiO ₂	Fe	Ca	Mg	Al	As	
		percent	percent	percent	percent	percent	ppm	
25.	RTS - 3 A	32.79	21.47	2.07	2.46	4.67	1	
26.	RTS - 3 B	32.89	21.26	2.09	2.53	4.66	1	
27.	RTS - 3 C	32.84	21.24	2.06	2.49	4.49	1	
28.	RTS - 3 D	32.99	21.44	2.11	2.51	4.51	1	
29.	RTS - 3 E	32.97	21.36	2.06	2.51	4.50	1	
30.	RTS - 3 F	32.98	21.19	2.10	2.45	4.67	1	
In As Column 1 indicates less than 2 ppm								
		Cu	Zn	Co	Pb	Ni	Cd	
		percent	percent	ppm	percent	ppm	ppm	
31.	RTS - 3 A	.298	.189	278	.019	54	9	
32.	RTS - 3 B	.298	.188	281	.018	55	9	
33.	RTS - 3 C	.299	.183	277	.018	56	9	
34.	RTS - 3 D	.299	.186	277	.018	56	9	
35.	RTS - 3 E	.299	.183	282	.019	57	9	
36.	RTS - 3 F	.298	.184	281	.018	56	9	

NOTE
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Mark A. [Signature]

Registered Assayer, Province of British Columbia



Member
Canadian Testing
Association

KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912-1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO CANMET- MSL Division

Certificate No. K 8660 - 4

Date

I hereby certify that the following are the results of assays made by us upon the herein described samples

Krat No	Marked	SiO ₂	Fe	Ca	Mg	Al	As	
		percent	percent	percent	percent	percent	ppm	
37.	RTS - 4 A	0.82	57.40	0.33	0.13	0.60	190	
38.	RTS - 4 B	0.87	57.35	0.32	0.12	0.56	182	
39.	RTS - 4 C	1.01	57.19	0.47	0.13	0.56	169	
40.	RTS - 4 D	1.07	57.28	0.31	0.13	0.61	186	
41.	RTS - 4 E	0.82	57.20	0.32	0.12	0.64	173	
42.	RTS - 4 F	0.98	57.31	0.31	0.13	0.63	178	
43.	RTS - 4 A	Cu	Zn	Co	Pb	Ni	Cd	
		ppm	ppm	ppm	percent	percent	ppm	
44.	RTS - 4 B	253	188	177	.010	.913	0	
45.	RTS - 4 C	268	197	180	.012	.917	0	
46.	RTS - 4 D	254	189	181	.012	.915	0	
47.	RTS - 4 E	256	246	180	.012	.917	0	
48.	RTS - 4 F	261	195	182	.011	.919	0	
		264	220	179	.010	.917	0	
		In Cd column 0 indicates less than 1 ppm						

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

David A. Brown
Registered Assayer, Province of British Columbia